

EAST Search History

EAST Search History (Prior Art)

| Ref # | Hits | Search Query | DBs | Default Operator | Plurals | Time Stamp |
|-------|------|--|---|------------------|---------|---------------------|
| S31 | 880 | 347/11 | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2007/07/04 14:21 |
| S30 | 1441 | 347/10 | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2007/07/04 14:21 |
| S32 | 152 | 347/10 and ((reversed or revers\$4 or invert\$4 or opposite or oppos \$4 or contrary or counter or transposed or converse or flipped or reverted)adj ((polarity or pulse or voltage or current or signal or bias or power or energy potential))) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2007/07/04 14:34 |
| S34 | 50 | 347/10 and ((reversed or revers\$4 or invert\$4 or opposite or oppos \$4 or contrary or counter or transposed or converse or flipped or reverted)adj ((polarity or pulse or voltage or current or signal or bias or power or energy potential)))and (meniscus) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2007/07/04 16:46 |
| S43 | 2168 | "347"/\$\$\$ and ((diameter or radius)NEAR(nozzle or orifice)) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2007/07/04 17:24 |
| S47 | 0 | "347"/\$\$\$ and (("1" or less")near (diameter or radius)NEAR(nozzle or orifice)) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2007/07/04 17:27 |
| S49 | 0 | "347"/\$\$\$ and (("1"? adj "or less") near(diameter or radius)NEAR (nozzle or orifice)) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2007/07/04 17:30 |

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| S53 | 1475 | "347"/\$\$\$ and ((diameter or radius)adj(nozzle or orifice)) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2007/07/04 17:35 |
| S44 | 0 | "347"/\$\$\$ and ("15 or less")near (diameter or radius)NEAR(nozzle or orifice)) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2007/07/04 17:35 |
| S54 | 72 | "347"/9 and ((diameter or radius)adj(nozzle or orifice)) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2007/07/04 17:36 |
| S71 | 54 | 347/47.ccls. and (((nozzle or orifice)near3 (diameter or radius))near2 (micron)) | US-PGPUB; USPAT; USOCR | OR | ON | 2008/01/05 20:47 |
| S73 | 43 | S71 not S72 | US-PGPUB; USPAT; USOCR | OR | ON | 2008/01/05 20:49 |
| S72 | 11 | 347/47.ccls. and (((nozzle or orifice)near3 (diameter or radius))near (micron)) | US-PGPUB; USPAT; USOCR | OR | ON | 2008/01/05 20:49 |
| S70 | 54 | 347/47.ccls. and (((nozzle or orifice)near3 (diameter or radius))near2 (micron or micro\$4)) | US-PGPUB; USPAT; USOCR | OR | ON | 2008/01/05 20:53 |
| S74 | 7 | 347/44.ccls. and (((nozzle or orifice)near3 (diameter or radius))near2 (micron or micro\$4)) | US-PGPUB; USPAT; USOCR | OR | ON | 2008/01/05 20:54 |
| S76 | 1 | 29/890.ccls. and (((nozzle or orifice)near3 (diameter or radius))near2 (micron or micro\$4)) | US-PGPUB; USPAT; USOCR | OR | ON | 2008/01/05 20:55 |
| S80 | 38 | "216"/\$\$\$ccls. and (((nozzle or orifice)near3 (diameter or radius))near2 (micron or micro\$4)) | US-PGPUB; USPAT; USOCR | OR | ON | 2008/01/05 21:01 |
| S85 | 61 | ((((nozzle or orifice)near2 (diameter or radius))near (micron or micro\$4))and inkjet | US-PGPUB; USPAT; USOCR | OR | ON | 2008/01/05 21:02 |
| S84 | 138 | ((((nozzle or orifice)near2 (diameter or radius))near (micron or micro\$4))and ink | US-PGPUB; USPAT; USOCR | OR | ON | 2008/01/05 21:02 |
| S83 | 299 | ((((nozzle or orifice)near2 (diameter or radius))near (micron or micro\$4)) | US-PGPUB; USPAT; USOCR | OR | ON | 2008/01/05 21:02 |
| S86 | 61 | ((((nozzle or orifice)near2 (diameter or radius))near (micron or micro\$4))and inkjet not (silverbrook.as.) | US-PGPUB; USPAT; USOCR | OR | ON | 2008/01/05 21:03 |

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| S92 | 1728 | 347/47.ccls. | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2008/09/04 21:14 |
| S93 | 41 | 347/47.ccls. and(nozzle near2 taper) | US-PGPUB; USPAT; USOCR; EPO; JPO | OR | ON | 2008/09/04 21:16 |
| S95 | 18 | 347/47.ccls. and(nozzle near2 taper) and (nozzle near2 con\$4) | US-PGPUB; USPAT; USOCR; EPO; JPO | OR | ON | 2008/09/04 21:17 |
| S96 | 1 | 347/47.ccls. and(nozzle near2 taper) and (nozzle near2 con\$4) and (nozzle near2 height) | US-PGPUB; USPAT; USOCR; EPO; JPO | OR | ON | 2008/09/04 21:18 |
| S98 | 0 | "347"/\$\$\$ccls. and(nozzle near2 taper) and (nozzle near2 con\$3) and (nozzle near2 height) | US-PGPUB; USPAT; USOCR; EPO; JPO | OR | ON | 2008/09/04 21:21 |
| S100 | 4 | 347/9.ccls. and (charge and electrode and (reverse near2 polarity)) | US-PGPUB; USPAT; USOCR | OR | ON | 2008/09/04 22:29 |
| S102 | 0 | 347/5.ccls. and (charge and electrode and (reverse near3 polarity)) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2008/09/05 11:11 |
| S105 | 9 | 347/10.ccls. and (charge and electrode and (reverse near4 polarity)) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2008/09/05 11:12 |
| S106 | 5 | 347/11.ccls. and (charge and electrode and (reverse near4 polarity)) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2008/09/05 11:13 |
| S110 | 184 | "347"/\$\$\$ccls. and (charge and electrode and (reverse near1 polarity)) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2008/09/05 11:14 |
| S109 | 184 | "347"/\$\$\$ccls. and (charge and electrode and (reverse near1 polarity)) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2008/09/05 11:14 |

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| S108 | 195 | "347"/\$\$\$ccls. and (charge and electrode and (reverse near2 polarity)) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2008/09/05 11:14 |
| S107 | 205 | "347"/\$\$\$ccls. and (charge and electrode and (reverse near4 polarity)) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2008/09/05 11:14 |
| S112 | 129 | "347"/\$\$\$ccls. and ((charge with electrode) and (reverse near2 polarity)) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2008/09/05 11:15 |
| S111 | 135 | "347"/\$\$\$ccls. and ((charge with electrode) and (reverse near4 polarity)) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2008/09/05 11:15 |
| S113 | 5 | "347"/\$\$\$ccls. and ((charge with electrode) and (reverse near2 polarity)) and (meniscus with convex) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2008/09/05 11:16 |
| L1 | 7064 | 347/5,9,10,11,47,55,57.ccls. | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2009/12/05 11:01 |
| L2 | 28 | 347/5,9,10,11,47,55,57.ccls. and (((convex near meniscus) or (convex\$1meniscus)) near2 (generator or form\$3 or creat\$3 or generat\$3)) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2009/12/05 11:07 |
| L3 | 9 | ((YASUO) near2 (NISHI)).INV. | USPAT | OR | ON | 2009/12/05 11:29 |
| L4 | 3 | ((YAMAMOTO NEAR KAZUNORI). INV.) AND ((NISHI NEAR YASUO). INV.) AND ((IWASHITA NEAR HIRONOBU).INV.) AND ((NISHIO NEAR SHIGERU).INV.) AND ((MURATA NEAR KAZUHIRO). INV.) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2009/12/05 11:33 |

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|-----|------|---|---|----|----|---------------------|
| L6 | 11 | ((YAMAMOTO NEAR KAZUNORI).INV.) ((NISHI NEAR YASUO).INV.) ((IWASHITA NEAR HIRONOBU).INV.) ((NISHIO NEAR SHIGERU).INV.) ((MURATA NEAR KAZUHIRO).INV.)) AND (((convex near meniscus) or (convex \$1meniscus)) near2 (generator or form\$3 or creat\$3 or generat\$3)) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2009/12/05 11:34 |
| L5 | 1229 | ((YAMAMOTO NEAR KAZUNORI).INV.) ((NISHI NEAR YASUO).INV.) ((IWASHITA NEAR HIRONOBU).INV.) ((NISHIO NEAR SHIGERU).INV.) ((MURATA NEAR KAZUHIRO).INV.)) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2009/12/05 11:34 |
| L9 | 0 | 347/5,9,10,11,47,55,57.ccls. and (((opposing or counter) near electrode) and ((diameter or radius) near2 (nozzle or orifice)) and ((flexible or bendable) near layer) and ((channel or barrier) near layer) and ((nozzle or orifice) near (plate or layer)) and ((eject \$4 or discharge\$4) near electrode) and charge and (convex near meniscus) and (piezoelectric)).CLM. | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2009/12/05 12:16 |
| L11 | 0 | ((YAMAMOTO NEAR KAZUNORI).INV.) ((NISHI NEAR YASUO).INV.) ((IWASHITA NEAR HIRONOBU).INV.) ((NISHIO NEAR SHIGERU).INV.) ((MURATA NEAR KAZUHIRO).INV.)) and (((opposing or counter) near electrode) and ((diameter or radius) near2 (nozzle or orifice)) and ((flexible or bendable) near layer) and ((channel or barrier) near layer) and ((nozzle or orifice) near (plate or layer)) and ((eject \$4 or discharge\$4) near electrode) and charge and (convex near meniscus) and (piezoelectric)).CLM. | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2009/12/05 12:17 |
| L15 | 0 | "347"/\$\$\$ccls. and (((opposing or counter) near electrode) and ((diameter or radius) near2 (nozzle or orifice)) and ((flexible or bendable) near layer) and ((channel or barrier) near layer) and ((nozzle or orifice) near (plate or layer)) and ((eject\$4 or discharge\$4) near electrode) and charge and (convex near meniscus) and (piezoelectric)).CLM. | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2009/12/05 12:18 |

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|-----|---|---|---|----|----|---------------------|
| L13 | 0 | Konica.as. and (((opposing or counter) near electrode) and ((diameter or radius) near2 (nozzle or orifice)) and ((flexible or bendable) near layer) and ((channel or barrier) near layer) and ((nozzle or orifice) near (plate or layer)) and ((eject\$4 or discharge\$4) near electrode) and charge and (convex near meniscus) and (piezoelectric)). CLM. | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2009/12/05 12:18 |
| L17 | 0 | (((opposing or counter) near electrode) and ((diameter or radius) near2 (nozzle or orifice)) and ((flexible or bendable) near layer) and ((channel or barrier) near layer) and ((nozzle or orifice) near (plate or layer)) and ((eject \$4 or discharge\$4) near electrode) and charge and (convex near meniscus) and (piezoelectric)).CLM. | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2009/12/05 12:19 |

EAST Search History (Interference)

| Ref # | Hits | Search Query | DBs | Default Operator | Plurals | Time Stamp |
|-------|------|--|----------------|------------------|---------|---------------------|
| L10 | 0 | 347/5,9,10,11,47,55,57.ccls. and (((opposing or counter) near electrode) and ((diameter or radius) near2 (nozzle or orifice)) and ((flexible or bendable) near layer) and ((channel or barrier) near layer) and ((nozzle or orifice) near (plate or layer)) and ((eject\$4 or discharge\$4) near electrode) and charge and (convex near meniscus) and (piezoelectric)).CLM. | USPAT; UPAD | OR | ON | 2009/12/05 12:16 |
| L12 | 0 | ((YAMAMOTO NEAR KAZUNORI). INV.) ((NISHI NEAR YASUO).INV.) ((IWASHITA NEAR HIRONOBU). INV.) ((NISHIO NEAR SHIGERU). INV.) ((MURATA NEAR KAZUHIRO). INV.)) and (((opposing or counter) near electrode) and ((diameter or radius) near2 (nozzle or orifice)) and ((flexible or bendable) near layer) and ((channel or barrier) near layer) and ((nozzle or orifice) near (plate or layer)) and ((eject\$4 or discharge\$4) near electrode) and charge and (convex near meniscus) and (piezoelectric)).CLM. | USPAT; UPAD | OR | ON | 2009/12/05 12:17 |

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|-----|---|--|----------------|----|----|---------------------|
| L16 | 0 | "347"/\$\$\$\$.cls. and (((opposing or counter) near electrode) and ((diameter or radius) near2 (nozzle or orifice)) and ((flexible or bendable) near layer) and ((channel or barrier) near layer) and ((nozzle or orifice) near (plate or layer)) and ((eject\$4 or discharge\$4) near electrode) and charge and (convex near meniscus) and (piezoelectric)). CLM. | USPAT; UPAD | OR | ON | 2009/12/05 12:18 |
| L14 | 0 | Konica.as. and (((opposing or counter) near electrode) and ((diameter or radius) near2 (nozzle or orifice)) and ((flexible or bendable) near layer) and ((channel or barrier) near layer) and ((nozzle or orifice) near (plate or layer)) and ((eject\$4 or discharge\$4) near electrode) and charge and (convex near meniscus) and (piezoelectric)). CLM. | USPAT; UPAD | OR | ON | 2009/12/05 12:18 |
| L18 | 0 | (((opposing or counter) near electrode) and ((diameter or radius) near2 (nozzle or orifice)) and ((flexible or bendable) near layer) and ((channel or barrier) near layer) and ((nozzle or orifice) near (plate or layer)) and ((eject\$4 or discharge\$4) near electrode) and charge and (convex near meniscus) and (piezoelectric)).CLM. | USPAT; UPAD | OR | ON | 2009/12/05 12:19 |

12/ 5/ 2009 1:48:23 PM

C:\ Documents and Settings\ hlegesse\ My Documents\ EAST\ Workspaces\ 10583841 _ Liquid ejection apparatus (Micro nozzle, Overlapping drive pulses) .wsp